



## Designated according to The Construction Products (Amendment etc.) (EU Exit) Regulations 2020

UK Technical Assessment	UKTA-0836-22/6216 of 13/12/2022
Technical Assessment Body issuing the UK Technical Assessment:	British Board of Agrément
Trade name of the construction product:	ATLAS XPS
Product family to which the construction product belongs:	External Thermal Insulation Composite System with rendering (ETICS)
Manufacturer:	Atlas sp. z o.o. ul. Jana Kilińskiego 2 91-421 Łódź Poland
Manufacturing plant(s):	Manufacturing plant no. 1 Atlas sp. z o.o. Zakład Produkcyjny w Zgierzu ul. Szczawińska 52a 95-100 Zgierz Poland  Manufacturing plan no. 2 Atlas sp. z o.o. Zakład Produkcyjny w Piotrkowie Trybunalskim ul. 18 Stycznia 28 97-300 Piotrków Trybunalski Poland
This UK Technical Assessment contains:	14 pages including 2 Annexes which form an integral part of this Assessment
This UK Technical Assessment is issued in accordance with The Construction Products (Amendment etc.) (EU Exit) Regulations 2020 on the basis of:	UKAD 040083-00-0404: <i>External Thermal Insulation Composite Systems with Rendering</i>

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## 1 Technical description of the product

External Wall Insulation System with rendering ATLAS XPS called EWIS in the following text is a kit comprising components which are factory-produced by the manufacturer or component suppliers.

EWIS is made up on site from these components. The EWIS manufacturer is ultimately responsible for all components of the EWIS specified in this UKTA.

The EWIS (kit) comprises a prefabricated insulation product of extruded polystyrene foam (XPS) to be bonded onto a wall. The method of fixing and the relevant components are specified in the table 1.

The insulation product is faced with a rendering system consisting of one or more layers (site applied), one of which contains reinforcement. The rendering is applied directly to the insulating panels, without any air gap or disconnecting layer.

The EWIS may include special fittings. Assessment and performance of these components is not addressed in this UKTA, however the EWIS manufacturer is responsible for adequate compatibility and performance within the EWIS when components are delivered as a part of the kit.

**Table 1**

<b>Components</b>		<b>Coverage (kg/m<sup>2</sup>)</b>	<b>Thickness (mm)</b>
<b>Insulation material with associated methods of fixing</b>	<b>Bonded EWIS:</b> fully bonded or partially bonded (bonded surface shall be at least 40%). National application documents shall be taken into account.		
	<ul style="list-style-type: none"> <li>• <b>Insulation product:</b> factory prefabricated standard extruded polystyrene foam (XPS) according to EN 13164. See Annex 1 for product characteristics</li> </ul>	-	≤ 200
	<ul style="list-style-type: none"> <li>• <b>Adhesive:</b> cement based powder requiring addition of 0.20 to 0.22 l/kg of water <b>ATLAS STOPTER K-20</b> cement based powder requiring addition of 0.20 to 0.22 l/kg of water <b>ATLAS HOTER S</b> cement based powder requiring addition of 0.20 to 0.22 l/kg of water <b>ATLAS HOTER U</b> cement based powder requiring addition of 0.20 to 0.22 l/kg of water</li> </ul>	4.0 to 5.0 <sup>1</sup> (powder)	-
<b>Base coat</b>	<ul style="list-style-type: none"> <li>• <b>ATLAS STOPTER K-20</b> cement based powder requiring addition of 0.20 to 0.22 l/kg of water composition: sand, cement, mineral fillers, synthetic resin, additives</li> <li>• <b>ATLAS HOTER U</b> cement based powder requiring addition of 0.20 to 0.22 l/kg of water composition: sand, cement, mineral fillers, synthetic resin, additives</li> </ul>	3.0 to 3.5 (powder)	2.0 to 3.0
<b>Glass fibre meshes</b>	<ul style="list-style-type: none"> <li>• <b>Standard glass fibre meshes</b> see Annex 2 for product characteristics</li> </ul>	-	-

<sup>1</sup> refers to fully bonded system

	<b>Components</b>	<b>Coverage (kg/m<sup>2</sup>)</b>	<b>Thickness (mm)</b>
<b>Key coats</b>	<ul style="list-style-type: none"> <li>• <b>ATLAS CERPLAST</b> composition: water, styroacrylat binder, mineral fillers, additives ready to use liquid to be used with ATLAS CERMIT mineral</li> </ul>	0.25 to 0.35	-
	<ul style="list-style-type: none"> <li>• <b>ATLAS SILKON ANX</b> composition: water, styroacrylat binder, silicone resin, mineral fillers, additives ready to use liquid to be used with ATLAS SILKON</li> </ul>	0.25 to 0.35	-
<b>Finishing coats</b>	<ul style="list-style-type: none"> <li>• <b>Mineral finishing coats</b> composition: sand, cement, mineral fillers, additives</li> </ul>		
	<ul style="list-style-type: none"> <li>• <b>ATLAS CERMIT mineral</b> powder requiring addition of 0.18 to 0.26 l/kg of water; particle size 1.5; 2.0; 2.5; 3.0 mm; grained or ribbed structure</li> </ul>	2.5 to 4.5	regulated by particle size
	<ul style="list-style-type: none"> <li>• <b>Silicone finishing coats</b> composition: water, silicone resin, sand, mineral fillers, additives</li> </ul>		
	<ul style="list-style-type: none"> <li>• <b>ATLAS SILKON BA</b> particle size 1.0, 1.5, 2.0 mm; grained or ribbed structure</li> </ul>	2.5 to 3.5	regulated by particle size
	<ul style="list-style-type: none"> <li>• <b>Silicate finishing coats</b> composition: water, silicate binder, sand, mineral fillers, additives</li> </ul>		
	<ul style="list-style-type: none"> <li>• <b>Tynk silikatowy ATLAS/ATLAS silicate render</b> particle size 1.5; 2.0 mm; grained structure</li> </ul>	2.5 to 3.5	regulated by particle size
	<ul style="list-style-type: none"> <li>• <b>Acrylic finishing coats</b> composition: water, acrylic co-polymer binder, sand, mineral fillers, additives ready to use paste</li> </ul>		
	<ul style="list-style-type: none"> <li>• <b>ATLAS CERMIT acrylic / ATLAS CERMIT N-100</b> ready to use paste particle size: 1.0, 1.5, 2.0 mm; grained or ribbed structure</li> </ul>	2.5 to 4.5	regulated by particle size
<b>Decorative coats (paints)</b>	<ul style="list-style-type: none"> <li>• <b>ATLAS SALTA S</b> to be used optionally with all finishing coats composition: silicate binder, pigments, additives ready to use liquid</li> </ul>	0.200 to 0.280*	-
	<ul style="list-style-type: none"> <li>• <b>ATLAS SALTA</b> to be used optionally with all finishing coats composition: silicone resin, pigments, additives ready to use liquid</li> </ul>	0.125 to 0.250*	-
<b>Ancillary materials</b>	Remain under EWIS manufacturer responsibility. Anchors as supplementary mechanical fixings covered by UKTA issued according to UKAD 330196-00-0604.		

\* decorative coats coverage in dm<sup>3</sup>/m<sup>2</sup>

## 2 Specification of the intended use(s) in accordance with the applicable UK Assessment Document (hereinafter UKAD)

This EWIS is intended to be used as external thermal insulation of buildings' walls constructed of masonry (bricks, blocks, stones, etc.) or concrete (cast on site or as prefabricated panels) with or without rendering. The characteristics of the walls shall be verified prior to use of the EWIS, especially regarding conditions for reaction to fire classification and for fixing of the EWIS (bonding).

The EWIS can be used on new or existing (retrofit) vertical walls. It can also be used on horizontal or inclined surfaces which are not exposed to precipitation.

The EWIS is made of non-loadbearing construction elements. It does not contribute directly to

the stability of the wall on which it is installed, but it can contribute to durability by providing enhanced protection from the effects of weathering. The EWIS is not intended to ensure the airtightness of the building structure.

The provisions made in this UK Technical Assessment are based on an assumed working life of the EWIS of at least 25 years, provided that the conditions for the packaging, transport, storage, installation as well as appropriate use, maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer or the Technical Assessment Body but should only be regarded as a means for choosing the appropriate products in relation to the expected economically reasonable working life of the works.

Design, installation, maintenance, and repair shall consider principles given in the relevant clause of UKAD 040083-00-0404.

### 3 Performance of the product and references to the methods used for its assessment

Performances of the EWIS as described in this clause are valid provided that the components of the kit comply with Annexes 1 and 2.

#### 3.1 Mechanical resistance and stability (BWR 1)

Not relevant.

#### 3.2 Safety in case of fire (BWR 2)

**Table 2**

Configuration	Maximum declared organic content	Declared flame retardant content	Reaction to fire class according to EN 13501-1
EWIS ATLAS XPS with XPS boards (reaction to fire class E) and rendering system:			
<ul style="list-style-type: none"> <li>Adhesives: ATLAS STOPTER K-20, ATLAS HOTER S, ATLAS HOTER U</li> <li>Meshes: SSA 1363 SM(100), R 117 A 101 / AKE 145 / VERTEX 145</li> <li>Base coats: ATLAS STOPTER K-20, ATLAS HOTER U</li> <li>Finishing coats (with relevant key coats): ATLAS CERMIT mineral, TYNK SILIKATOWY ATLAS</li> <li>Decorative coats (with relevant primers): ATLAS SALTA S, ATLAS SALTA</li> </ul>	<p>≤ 3.50%</p> <p>≤ 4.9%</p> <p>≤ 13.5%</p>	0% (no flame retardant)	B – s2, d0
EWIS ATLAS XPS with XPS boards (reaction to fire class E) and rendering system:			
<ul style="list-style-type: none"> <li>Adhesives: ATLAS STOPTER K-20, ATLAS HOTER S, ATLAS HOTER U</li> <li>Meshes: SSA 1363 SM(100), R 117 A 101 / AKE 145 / VERTEX 145</li> <li>Base coats: ATLAS STOPTER K-20, ATLAS HOTER U</li> <li>Finishing coats (with relevant key coats): ATLAS CERMIT acrylic/ATLAS CERMIT N-100, ATLAS SILKON BA</li> <li>Decorative coats (with relevant primers): ATLAS SALTA S, ATLAS SALTA</li> </ul>	<p>≤ 3.50%</p> <p>≤ 4.9%</p> <p>≤ 13.5%</p>	0% (no flame retardant)	C – s2, d0

#### Mounting and fixing

The assessment of reaction to fire is based on tests with an insulation layer (XPS) thickness of 180 mm – SBI test according to EN 13823, 60 mm – test according to EN ISO 11925-2 and a maximum insulation material (XPS) density of 32 kg/m<sup>3</sup> as well as finishing coats with maximum organic content.

For the SBI test according to EN 13823, the EWIS is mounted directly to a substrate (Class A2-s1, d0) with a thickness of 12 mm.

For the test according to EN ISO 11925-2 no substrate is used.

The installation of the EWIS was carried out by the manufacturer following the manufacturer's specifications (instruction of installation) using a single layer of the glass fibre mesh all over the test specimen (no overlapping glass fibre mesh). The test specimens were prefabricated and did not include any joints.

Anchors were not included in the tested EWIS as they have no influence on the test results.

### 3.3 Health, hygiene and the environment (BWR 3)

#### 3.3.1 Water absorption

- Base coat ATLAS STOPTER K-20:
  - water absorption after 1 hour < 1.0 kg/m<sup>2</sup>.
  - water absorption after 24 hours < 0.5 kg/m<sup>2</sup>.
- Base coat ATLAS HOTER U:
  - water absorption after 1 hour < 1.0 kg/m<sup>2</sup>.
  - water absorption after 24 hours < 0.5 kg/m<sup>2</sup>,
- Rendering systems – according to Table 3.

**Table 3**

		Water absorption after 24 h	
		< 0.5 kg/m <sup>2</sup>	≥ 0.5 kg/m <sup>2</sup>
<b>Rendering system:</b> base coat ATLAS STOPTER K-20 (with the relevant key-coat) + finishing coat indicated hereafter:	ATLAS CERMIT mineral	X	-
	ATLAS CERMIT acrylic / ATLAS CERMIT N-100	X	-
	Tynk silikatowy ATLAS/ATLAS silicate render	X	-
	ATLAS SILKON BA	X	-
<b>Rendering system:</b> base coat ATLAS HOTER U (with the relevant key-coat) + finishing coat indicated hereafter:	ATLAS CERMIT mineral	X	-
	ATLAS CERMIT acrylic / ATLAS CERMIT N-100	X	-
	Tynk silikatowy ATLAS/ATLAS silicate render	X	-
	ATLAS SILKON BA	X	-

#### 3.3.2 Watertightness

Heat-rain and heat-cold cycles have been performed on a rig. The EWIS is assessed as resistant to hygrothermal cycles.

The water absorption of both the base coat and the rendering system was lower than 0.5 kg/m<sup>2</sup> after 24 hours. The EWIS is therefore assessed as resistant to freeze/thaw behaviour.

#### 3.3.3 Impact resistance

**Table 4**

		Impact resistance Single standard mesh layer

<b>Rendering system:</b> base coat	ATLAS CERMIT mineral	Category III
ATLAS STOPTER K-20 (with the relevant key-coat)	ATLAS CERMIT acrylic / ATLAS CERMIT N-100	Category III
+	Tynk silikatowy ATLAS/ATLAS silicate render	Category III
finishing coat indicated hereafter:	ATLAS SILKON BA	Category III

**Table 5**

		<b>Impact resistance Single standard mesh layer</b>
<b>Rendering system:</b> base coat	ATLAS CERMIT mineral	Category III
ATLAS HOTER U (with the relevant key-coat)	ATLAS CERMIT acrylic / ATLAS CERMIT N-100	Category III
+	Tynk silikatowy ATLAS/ATLAS silicate render	Category III
finishing coat indicated hereafter:	ATLAS SILKON BA	Category III

### 3.3.4 Water vapour permeability

**Table 6**

		<b>Equivalent air thickness <math>s_d</math></b>
<b>Rendering system:</b> base coat	ATLAS CERMIT mineral	<b>≤ 1.0 m</b>
ATLAS STOPTER K-20 (with relevant key coat according to Table 1)	ATLAS CERMIT acrylic / ATLAS CERMIT N-100	ATLAS CERMIT mineral particles size 3.0 mm: 0.25 m
+		ATLAS SILKAT R particles size 2.0 mm: 0.19 m
finishing coat indicated hereafter	Tynk silikatowy ATLAS/ATLAS silicate render	

**Table 7**

		<b>Equivalent air thickness <math>s_d</math></b>
<b>Rendering system:</b> base coat ATLAS HOTER U	ATLAS CERMIT mineral	<b>≤ 1.0 m</b>
(with relevant key coat according to Table 1)	ATLAS CERMIT acrylic / ATLAS CERMIT N-100	ATLAS CERMIT mineral particles size 3.0 mm: 0.31 m
+		ATLAS SILKAT N / TYNK SILIKATOWY ATLAS particles size 2.0 mm: 0.19 m
finishing coat indicated hereafter	Tynk silikatowy ATLAS/ATLAS silicate render	

### 3.3.5 Release of dangerous substances

The written declaration on dangerous substances was submitted by the manufacturer to the Technical Assessment Body.

### 3.4 Safety and accessibility in use (BWR 4)

#### 3.4.1 Bond strength between base coat and insulation product

Table 8

Bond strength between base coat and insulation product (XPS)			
Base coat	Initial state	After hygrothermal cycles (on the rig)	After freeze/thaw cycles
ATLAS STOPTER K-20	≥ 0.08 MPa	≥ 0.08 MPa	test not required as freeze/thaw cycles not necessary
ATLAS HOTER U	≥ 0.08 MPa	≥ 0.08 MPa	test not required as freeze/thaw cycles not necessary

#### 3.4.2 Bond strength between adhesive / substrate and adhesive / insulation product

Table 9

Bond strength between: adhesive – substrate (concrete) and adhesive – insulation product (EPS)				
Adhesives		Under dry conditions	48 h immersion in water + 2 h drying at (23±2)°C and (50±5)% RH	48 h immersion in water + 7 days drying at (23±2)°C and (50±5)% RH
ATLAS STOPTER K-20	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	XPS	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
ATLAS HOTER S	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	XPS	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
ATLAS HOTER S	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	XPS	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa

The EWIS shall be installed on the substrate with application of the adhesive on the following minimal surface:

Table 10

Tensile strength perpendicular to the faces of XPS	
TR 100 (≥ 100 kPa)	
ATLAS STOPTER K-10	
ATLAS STOPTER K-20	40%
ATLAS HOTER S	
ATLAS HOTER U	

#### 3.4.3 Bond strength after ageing

Table 11

		After hygrothermal cycles
<b>Rendering system:</b> base coat ATLAS STOPTER K-20 (with relevant key coat according to Table 1) + finishing coat indicated hereafter	ATLAS CERMIT mineral	≥ 0.08 MPa
	ATLAS CERMIT acrylic / ATLAS CERMIT N-100	≥ 0.08 MPa
	Tynk silikatowy ATLAS/ATLAS silicate render	≥ 0.08 MPa
	ATLAS SILKON BA	≥ 0.08 MPa

**Table 12**

		After hygrothermal cycles
<b>Rendering system:</b>	ATLAS CERMIT mineral	≥ 0.08 MPa
base coat ATLAS HOTER U (with relevant key coat according to Table 1)	ATLAS CERMIT acrylic / ATLAS CERMIT N- 100	≥ 0.08 MPa
+		
finishing coat indicated hereafter	Tynk silikatowy ATLAS/ATLAS silicate render	≥ 0.08 MPa
	ATLAS SILKON BA	≥ 0.08 MPa

### 3.5 Protection against noise (BWR 5)

Not relevant.

### 3.6 Energy economy and heat retention (BWR 6)

#### 3.6.1 Thermal resistance and thermal transmittance

The thermal transmittance of the wall covered by the EWIS is calculated in accordance with the standard EN ISO 6946:

$$U_c = U + \chi_p \cdot n$$

- where:
- $\chi_p \cdot n$  has only to be taken into account if it is greater than 0.04 W/(m<sup>2</sup>·K)
  - $U_c$ : corrected thermal transmittance of the covered wall (W/(m<sup>2</sup>·K))
  - $n$ : number of anchors (through insulation product) per m<sup>2</sup>
  - $\chi_p$ : local influence of thermal bridge caused by an anchor. The values listed below can be taken into account if not specified in the anchor's UKTA:
    - = 0.002 W/K for anchors with a plastic screw, stainless steel screw with a head covered by plastic material and for anchors with an air gap at the head of the screw ( $\chi_p \cdot n$  negligible for  $n < 20$ )
    - = 0.004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material ( $\chi_p \cdot n$  negligible for  $n < 10$ )
    - = 0.008 W/K for all other anchors (worst case)
  - $U$ : thermal transmittance of the current part of the covered wall (excluding thermal bridges) (W/(m<sup>2</sup>·K)) determined as follows:

$$U = 1 : [R_i + R_{render} + R_{substrate} + R_{se} + R_{si}]$$

- where:
- $R_i$ : thermal resistance of the insulation product (according to declaration in reference to EN 13163) in (m<sup>2</sup>·K)/W
  - $R_{render}$ : thermal resistance of the render (about 0.02 in (m<sup>2</sup>·K)/W or determined by test according to EN 12667 or EN 12664)
  - $R_{substrate}$ : thermal resistance of the substrate (e.g. concrete, brick) in (m<sup>2</sup>·K)/W
  - $R_{se}$ : external superficial thermal resistance in (m<sup>2</sup>·K)/W
  - $R_{si}$ : internal superficial thermal resistance in (m<sup>2</sup>·K)/W

The value of thermal resistance of insulation product shall be given in the manufacturer's documentation along with the possible range of thicknesses. In addition, the point thermal conductivity of anchors shall be given when anchors are used in the EWIS.

### 3.7 Sustainable use of natural resources (BWR 7)

No performance assessed.



#### 4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied

##### 4.1 System of assessment and verification of constancy of performance

According to UKAD No. 040083-00-0404 and Annex V of the Construction Products Regulation (Regulation (EU) 305/2011 as brought into UK law and amended, the system of assessment and verification of constancy of performance (AVCP) of table 13 applies.

**Table 13**

Product	Intended use	Level or class (Reaction to fire)	System
External thermal insulation composite systems/kits (EWIS) with rendering	in external wall subject to fire regulations	A1 <sup>(1)</sup> , A2 <sup>(1)</sup> , B <sup>(1)</sup> , C <sup>(1)</sup>	1
		A1 <sup>(2)</sup> , A2 <sup>(2)</sup> , B <sup>(2)</sup> , C <sup>(2)</sup> , D, E, (A1 to E) <sup>(3)</sup> , F	2+
	in external wall not subject to fire regulations	any	2+

(1) Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material)

(2) Products/materials not covered by footnote (1)

(3) Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of Class A1 according to Commission Decision 96/603/EC)

#### 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable UKAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with the British Board of Agrément and made available to the UK Approved Bodies involved in the conformity attestation process.

##### 5.1 UKCA marking for the product/ system must contain the following information:

- Identification number of the Approved Body
- Name/address of the manufacturer of the product/ system
- Marking with intention of clarification of intended use
- Date of marking
- Number of certificate of constancy of performance
- UKTA number.

On behalf of the British Board of Agrément



Date of Issue: 13 December 2022

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**ANNEX 1**  
**Thermal insulation products characteristic**

Description and characteristics		XPS panels according to EN 13164
<b>Reaction to fire</b> EN 13501-1		Class E thickness: up to 200 mm density: up to 40.0 kg/m <sup>3</sup>
<b>Thermal resistance (m<sup>2</sup>·K)/W</b>		Defined by EN 13164
<b>Thickness</b> EN 823		T1 or T2
<b>Length</b> EN 822		± 8 mm
<b>Width</b> EN 822		± 8 mm
<b>Squareness</b> EN 824		≤ 5 mm/m
<b>Flatness</b> EN 825		≤ 6 mm
<b>Dimensional stability</b>	specified temperature and humidity EN 1604	DS(70,90)
<b>Short-term water absorption (partial immersion) (kg/m<sup>2</sup>)</b> EN 1609		≤ 1.0
<b>Water vapour diffusion resistance factor (μ)</b> EN 12086		100 to 200
<b>Tensile strength perpendicular to the faces in dry conditions</b> EN 1607		TR100
<b>Shear strength (MPa)</b> EN 12090		≥ 0.02
<b>Shear modulus (MPa)</b> EN 12090		≥ 1.0

**ANNEX 2**  
**Glass fibre meshes characteristic**

Mesh trade name	Description	Alkalis resistance	
		Residual resistance after ageing N/mm	Relative residual resistance, (after ageing) of the strength in the as delivered state, %
<b>R 117 A 101 / AKE 145 / VERTEX 145</b>	standard mesh mass per unit area: 145 g/m <sup>2</sup> mesh size: 4.0 x 4.5 mm	≥ 20	≥ 50
<b>SSA 1363 SM(100)</b>	standard mesh mass per unit area: 145 g/m <sup>2</sup> mesh size: 3.5 x 3.5 mm	≥ 20	≥ 50



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